AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims

1. (Original) A rotary compressor comprising:

a driving shaft being rotatable clockwise and counterclockwise, and having an eccentric portion of a predetermined size;

a cylinder having a predetermined inner volume;

a roller installed rotatably on an outer circumference of the eccentric portion so as to contact an inner circumference of the cylinder, performing a rolling motion along the inner circumference and forming a fluid chamber to suck and compress fluid along with the inner circumference;

a vane installed elastically in the cylinder to contact the roller;

upper and lower bearings installed respectively in upper and lower portions of the cylinder, for rotatably supporting the driving shaft and hermetically sealing the inner volume;

suction and discharge ports communicating with the fluid chamber so as to suck and discharge the fluid;

a suction plenum communicating with the suction ports and preliminarily storing, the fluid; and

a compression mechanism configured to form different sizes of compressive spaces in the fluid chamber depending on the rotational direction of the driving shaft, wherein the mechanism allows the compressor to have two different compression capacities in clockwise and counterclockwise directions.

2. (Original) The rotary compressor of claim 1, wherein the compression mechanism compresses the fluid using the overall fluid chamber when the driving shaft rotates in any one of the clockwise direction and the counterclockwise direction.

3. (Original) The rotary compressor of claim 1, wherein the compression mechanism compresses the fluid using a portion of the fluid chamber when the driving shaft rotates in the other of the clockwise direction and the counterclockwise direction.

4. (Original) The rotary compressor of claim 1, wherein the suction ports are configured to suck the fluid in all the rotational directions of the driving shaft.

5. (Original) The rotary compressor of claim 1, wherein the discharge ports are configured to discharge the fluid which is introduced from a corresponding one of the suction ports and compressed while the driving shaft rotates clockwise or counterclockwise.

6. (Original) The rotary compressor of claim 1, wherein the suction ports are spaced apart by a predetermined angle from each other.

7. (Original) The rotary compressor of claim 1, wherein the discharge ports are spaced apart by a predetermined angle from each other.

8. (Original) The rotary compressor of claim 1, wherein each of the suction and discharge ports is at least two.

9. (Original) The rotary compressor of claim 1, wherein the compression mechanism comprises a valve assembly, which rotates according to the rotational direction of the driving shaft to selective open at least one of the suction ports.

10. (Original) The rotary compressor of claim 9, wherein the discharge ports comprise a first discharge port and a second discharge port which are positioned facing each other with respect to the vane.

11. (Original) The rotary compressor of claim 9, wherein the suction ports comprise a first suction port located in the vicinity of the vane and a second suction port spaced apart by a predetermined angle from the first suction port.

12. (Original) The rotary compressor of claim 11, wherein the suction ports are circular.

13. (Original) The rotary compressor of claim 11, wherein the suction ports are rectangles.

14. (Original) The rotary compressor of claim 13, wherein the suction ports have a predetermined curvature.

15. (Original) The rotary compressor of claim 12, wherein the suction ports have diameters ranged from 6 mm to 15 mm

16. (Original) The rotary compressor of claim 11, wherein the first suction port is positioned spaced by approximately 10° from the vane clockwise or counterclockwise.

17. (Original) The rotary compressor of claim 11, wherein the second suction port is positioned in a range of 90-180° from the vane to face the first suction port.

18. (Original) The rotary compressor of claim 9, further comprising discharge valves opening and closing the discharge ports so as to discharge the compressed fluid through the corresponding suction ports.

19. (Currently Amended) The rotary compressor of claim 9 ~~or 11~~, wherein the valve assembly comprises: a first valve installed rotatably between the cylinder and the bearing; and a second valve for guiding a rotary motion of the first valve.

20. (Original) The rotary compressor of claim 19, wherein the first valve comprises a disc member contacting the eccentric portion of the driving shaft and rotating in the rotational direction of the driving shaft.

21. (Original) The rotary compressor of claim 20, wherein the first valve has a diameter larger than an inner diameter of the cylinder.

22. (Original) The rotary compressor of claim 20, wherein the first valve is 0.5-5 mm thick.

23. (Original) The rotary compressor of claim 19, wherein the first valve comprises : a first opening communicating with the first suction port when the driving shaft rotates in any one of the clockwise direction and the counterclockwise direction; and a second opening communicating with the second suction port when the driving shaft rotates in the other of the clockwise direction and the counterclockwise direction.

24. (Original) The rotary compressor of claim 19, wherein the first valve comprises a single opening communicating with the first suction port when the driving shaft rotates in any one of the clockwise direction and communicating with the second suction port when the driving shaft rotates in the other of the clockwise direction the counterclockwise direction.

25-32.(Canceled)

33. (Original) The rotary compressor of claim 23, wherein the suction port further comprises a third suction port positioned between the second suction port and the vane.

34. (Original) The rotary compressor of claim 33, wherein the third suction port is spaced apart by 10° clockwise or counterclockwise from the vane so as to face the first suction port.

35. (Original) The rotary compressor of claim 33, wherein the first valve further comprises a third opening for opening the third suction port simultaneously with opening the second suction port.

36. (Original) The rotary compressor of claim 33, wherein the first valve comprises a first opening for opening the third suction port simultaneously with opening the second suction port.

37. (Original) The rotary compressor of claim 19, wherein the valve assembly further comprises means for controlling a rotation angle of the first valve such that corresponding suction ports are opened accurately.

38. (Original) The rotary compressor of claim 37, wherein the control means comprises : a curved groove formed at the first valve and having a predetermined length; and a stopper formed on the bearing and inserted into the curved groove.

39. (Original) The rotary compressor of claim 38, wherein the curved groove is positioned in the vicinity of a center of the first valve.

40. (Original) The rotary compressor of claim 38, wherein the stopper has the same thickness as the first valve.

41. (Original) The rotary compressor of claim 38, wherein the stopper has the same width as the curved groove.

42. (Original) The rotary compressor of claim 38, wherein the curved groove has an angle of 30-120° between both ends thereof.

43. (Original) The rotary compressor of claim 37, wherein the control means comprises: a projection formed on the first valve and projecting in a radial direction of the first valve; and a groove formed on the second valve, for receiving the projection movably.

44. (Original) The rotary compressor of claim 37, wherein the control means comprises: a projection formed on the second valve and projecting in a radial direction of the second valve; and a groove formed on the first valve, for receiving the projection movably.

45. (Original) The rotary compressor of claim 37, wherein the control means comprises: a projection formed on the second valve and projecting toward a center of the second valve ; and a cut-away portion formed on the first valve, for receiving the projection movably.

46. (Original) The rotary compressor of claim 45, wherein the projection and the cut- away portion form a clearance therebetween and the clearance opens the first suction port or the third suction port according to the rotational direction of the driving shaft.

47. (Original) The rotary compressor of claim 45, wherein the projection has an angle of 10-90° between both side surfaces thereof.

48. (Original) The rotary compressor of claim 45, wherein the cut-away portion has an angle of 30-120° between both ends thereof.

49. (Original) The rotary compressor of claim 1, wherein the compression mechanism comprises a valve assembly selective opening at least one of the suction ports spaced apart from each other by using a pressure difference between the cylinder and inner and outer portions according to the rotational direction of the driving shaft.

50-70. (Canceled)

71. (Original) The rotary compressor of claim 1, wherein the compression mechanism is comprised of a first vane and a second vane that divide the fluid chamber into a first space configured such that the fluid is compressed while the driving shaft rotates bidirectionally, and a second space configured such that the fluid is compressed while the driving shaft rotates in any one direction.

72-129. (Canceled)

130. (Original) The rotary compressor of claim 1, wherein the suction plenum accommodates oil separated from the stored fluid.

131. (Original) The rotary compressor of claim 1, wherein the suction plenum is installed at a lower portion of the bearing in the vicinity of the suction port.

132. (Original) The rotary compressor of claim 1, wherein the suction plenum has 100 - 400 % a volume as large as the fluid chamber.

133. (Original) The rotary compressor of claim 1, wherein the suction plenum is connected with a suction pipe through a predetermined fluid passage, the suction pipe supplying the fluid to be compressed.

134. (Original) The rotary compressor of claim 133, wherein the fluid passage penetrates the cylinder and the lower bearing.

135. (Original) The rotary compressor of claim 1, wherein the suction plenum further comprises a penetration hole through which a sleeve of the bearing passes.